SEMESTER EXAMINATION,MAY-2024

Course Name: - B.tech **Semester:- 4th**

Paper Name: - Database Management System **PaperCode-TCS-403**

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. **Max Marks-70**

समय– 3 घण्टे + 20 मिनट प्रति घंटे अतिरिक्त–दृष्टिबाधित एवं सह लेखक परीक्षार्थियों के लिए। अधिकतम अंक–70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries **3 mark. All questions are compulsory.**
- Section B- Answer any **5 out of 7** given questions in maximum one hundred fifty (150) words. Each question carries **7 marks.**
- Section C- Answer any **2 out of 3** given questions in maximum three hundred (300) words. Each question carries **10 marks.**

निर्देश:

- प्रश्न पत्र में तीन खण्ड अ, ब, व स हैं। सभी खण्ड अनिवार्य हैं।
- खण्ड–अ में प्रत्येक प्रश्न तीन अंक का है। सभी प्रश्न अनिवार्य हैं।
- खण्ड–ब में सात प्रश्नों में से किन्हीं पाँच प्रश्नों के उत्तर अधिकतम 150 शब्दों में दें। प्रत्येक प्रश्न सात अंक का है।
- खण्ड–स में तीन प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर अधिकतम (250-300) शब्दों में दें। प्रत्येक प्रश्न 10 अंक का है।

Section – A (खण्ड–अ)

Objective Questions(वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions. **5x3 =15**
निम्नलिखित सभी प्रश्न अनिवार्य हैं।

i) Which of the following command is used to change data in table?
   a) INSERT
   b) UPDATE
   c) MERGE
   d) NONE

ii) What is the number of tuples of a relation known as?
   a) Column
   b) Cardinality
   c) Entity
   d) None

iii) Which data structure is used in Hierarchical model record?
   a) Graph
   b) Tree
   c) Linked List
   d) Stacks

iv) Which of the following allows to uniquely identify a tuple?
   a) Schema
   b) Attribute
   c) Super key
   d) Domain

v) Which of the following is a Command of DDL?
   a) ALTER
   b) DELETE
   c) CREATE
   d) All of the above

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Section – B (खण्ड–ब)
Short Answer Questions (लघूत्तरीय प्रश्न)

2. **Answer any five of the following questions in maximum 150 words.** **5x7=35**
निम्नलिखित में से किन्हीं पाँच प्रश्नों के उत्तर अधिकतम 150 शब्दों में दें।

i. What is Transaction? And also Explain its operations and properties.
ii. Explain Atomicity. Why it is important ? Explain with example.
iii. Explain Database Recovery techniques of DBMS in detail.
iv. Explain the DAC and MAC in detail. Write the difference between MAC and DAC in detail.
v. Explain the Intrusion Detection techniques and also Explain its working with figure.
vi. What is Data Mining? Explain its techniques in detail.
vii. What is Dependency? Explain the types of dependency with the help of examples.

Section -C

Descriptive Questions (विवरणात्मक प्रश्न)

3. **Answer any two of the following question in maximum 300 words.** **2x10=20**

निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर अधिकतम 300 शब्दों में दें।

i) Explain Inconsistent retrieval problem of concurrency, Lost update and Dirty read problem with the help of example.

ii) Define the term:
   a. Authentication
   b. Access Control
   c. Integrity
   d. Redundancy
   e. Encryption

iii) Explain the term:
   a. Logical Database
   b. Web Database
   c. Distributed Database

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